



ISSN Print: 2394-7500
 ISSN Online: 2394-5869
 Impact Factor: 5.2
 IJAR 2017; 3(6): 224-226
 www.allresearchjournal.com
 Received: 03-04-2017
 Accepted: 04-05-2017

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Oral health status of visually disabled individuals attending blind schools in Nagpur city

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Abstract

Background: Visually disabled cannot visualize the plaque on the teeth surfaces so even understanding the importance of oral hygiene to maintain is difficult for them, which results in the progression of dental caries as well as inflammatory disease of the periodontium

Aims & objective of the study: To assess the oral health status of visually disabled individuals attending blind schools in Nagpur city

Material & Method: A cross-sectional study was conducted among the individuals attending blind school in Nagpur City

Result: In total strength of 120 visually impaired individuals, dental caries was diagnosed in 23, malocclusion in 26, poor oral hygiene in 50, fractured of anterior teeth in 2, and oral abnormality in 19

Conclusion: It was observed that visually impaired individuals have poor oral hygiene status (41.66%), with moderate rate of caries prevalence (19.57%) and malocclusion (21.85%) and mild rate of trauma.

Keywords: Visually impaired, blind school, dental caries, malocclusion

Introduction

Handicapped person is one “who over an appreciable period is prevented by his/her physical or mental conditions from full participation in the normal activities of their age groups including those of a social recreational, educational and vocational nature [1]. It is estimated that prevalence of childhood blindness in India is 0.8/1000. Visually disabled cannot visualize the plaque on the teeth surfaces so even understanding the importance of oral hygiene to maintain is difficult for them, which results in the progression of dental caries as well as inflammatory disease of the periodontium [2].

So, there is utmost need of individual training by creating awareness in oral care and plaque control in order to reduce the prevalence of dental caries and periodontal disease among visually impaired children. Health care providers must possess unique communication skill to deal with these visually impaired children about the special need of oral care.

It is hoped that this study will provide some inputs and data useful for assisting the oral health care providers in implementing the oral health promotion programs among the visually impaired children in order to improve their oral health.

Materials & method

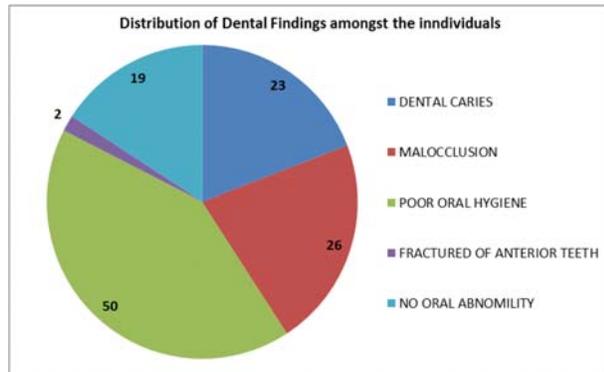
Prior consent to conduct the study was obtained from the respective school authority. The research protocol was approved by the ethical committee of SDKS Dental College and Hospital Nagpur. Information regarding oral hygiene practices was gathered through personal interactions with children. The oral hygiene status of the participants was assessed by using Green and Vermillion (1964) OHI-S index. Dental caries status was assessed by using dentition status and treatment needs as per WHO criteria, 1997. A cross-sectional study was conducted among the individuals attending blind school (Table 1) on June 2016.

Table 1: Demographics

Individuals	Percentage
Total individuals examined	120
Boys	68 (57%)
Girls	52 (43%)

Results

Total no of students examined	120	Percentage
Dental caries	23	19.57%
Malocclusion	26	21.85%
Poor oral hygiene	50	41.66%
Fractured of anterior teeth	2	1.37%
No oral abnormality	19	15.48%



In total strength of 120 visually impaired individuals, dental caries was diagnosed in 23, malocclusion in 26, poor oral hygiene in 50, fractured of anterior teeth in 2, and oral abnormality in 19.

Discussion

41.66% of children are with poor oral hygiene. Similar result was found in the study conducted by Ahmad *et al.* (2009) [3]. The caries prevalence is 19.57% in these subjects can be attributed to their difficulty in maintaining oral hygiene. Low power of coordination and comprehension leading to negligence of oral hygiene and improper brushing. Greeley *et al.* (1976) [4], stated that caries load is not affected by visual impairment in children. Shyama *et al.* (2001) [5]. Has found reduced number of decayed, missing or filled teeth (dmft/DMFT) in children who are visually impaired compared to sighted controls. In present study one case with incisal trauma was found. In Al-Sareed's *et al.*, (2003) [6]. Study of children with impaired vision and hearing found that had a slightly higher incidence (6-7%) of incisal trauma than their sighted peers.

In present study 21.85% children needed orthodontic treatment and were wilful for it Al-Sareed *et al.*, (2004) [7]. Found that children with a visual disability had a higher aesthetic orthodontic need than a sighted control population. In this study patients allowed to touch instruments and to explain their action as some patients rely on senses other than sight to mentally visualise objects. Schnuth *et al.*, (1977) [8]. Indicated that fear and apprehension in these children might be reduced by the encouragement of questioning by the patient.

In this study adequate oral hygiene maintaining verbal instructions given to children. O'Donnell *et al.*, (1990) [9]. found that children who were blind were very adapt at converting oral instructions into manual oral hygiene practices. A clear on-going description on what they will feel, hear, taste and smell is important to ensure the patient. Surprised by an unexpected feeling, sound or taste should be avoided. Movements should be explained and then treatment carried out in a slow and deliberate manner for these children. There is a paucity of information available on

dental care for visually impaired children and little information to help and direct future health plans.

No attention has been bestowed by the health authorities in India to improve the oral health of these less fortunate individuals. Hence, oral health care should be approached jointly with general health care in order to achieve a more holistic view of the individual's physiological and psychological well-being.

Conclusion

After carefully conducting a survey and analysing the results it can be concluded that visually impaired individuals have poor oral hygiene status (41.66%), with moderate rate of caries prevalence (19.57%) and malocclusion (21.85%) and mild rate of trauma. The treatment needs among the blind children were very high.

Hence, proper planning is the need of the hour by the general as well as Paediatric dentists to address the prevailing discrepancies in oral health and hygiene system among the individuals of this special group. Furthermore, this study only provides oral hygiene status of relatively small population, therefore suggested to conduct a study on large scale in the region to help planners in formulating an effective oral health care program for this underserved population.

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